

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) An image reading device, in which uses a thin film transistors having a photo response property are used as [[a]] photodetecting elements and the thin film transistors are disposed in a matrix manner so as to read a document image in a single frame period, comprising:

driving means for applying a voltage to a gate electrode of each of the thin film transistors so as to drive the thin film transistor into an ON state or an OFF state, wherein the driving means applies a voltage, whose polarity is opposite to average polarity of a voltage making the thin film transistor in the OFF state, to the gate electrode in an arbitrary period in a period whose length is 3-30% with respect to the single frame.

2. (Original) The image reading device as set forth in claim 1, wherein the arbitrary period is a period in which image reading is not performed.

3-4. (Canceled)

5. (Original) The image reading device as set forth in claim 1, wherein, when images are sequentially read at an arbitrary cycle, the cycle ranges from 0.1Hz to 10Hz.

6. (Original) The image reading device as set forth in claim 1, wherein the photodetecting element functions as a pixel selection element for selecting a pixel.

7. (Currently amended) The image reading device as set forth in claim 1, wherein a potential of the voltage applied to the gate electrode in the arbitrary period is set to be equal to a potential of the voltage making the thin film transistor in the ON state in the period whose length is 3-30% with respect to the single frame.

8. (Currently amended) An image reading device, in which uses a thin film transistors each having a photo response property are used as [[a]] photodetecting elements and the thin film transistors are disposed in a matrix manner so as to read a document image in a single frame period, comprising

a driving circuit for applying a voltage to a gate electrode of each of the thin film transistors so as to drive the thin film transistors into an ON state or an OFF state, wherein the driving circuit applies a voltage, whose polarity is opposite to average polarity of a voltage making the thin film transistor in the OFF state, to the gate electrode in an arbitrary period in a period whose length is 3-30% with respect to the single frame.

9. (Currently amended) A flat bed scanner, provided with an image reading device in which uses a thin film transistors each having a photo response property are used as [[a]] photodetecting elements and the thin film transistors are disposed in a matrix manner so as to read a document image in a single frame period, the scanner comprising

a driving circuit for applying a voltage to a gate electrode of each of the thin film transistors so as to drive the thin film transistors into an ON state or an OFF state, wherein

the driving circuit applies a voltage, whose polarity is opposite to average polarity of a voltage making the thin film transistor in the OFF state, to the gate electrode in an arbitrary period in a period whose length is 3-30% with respect to the single frame.

10. (Currently amended) A handy scanner, provided with an image reading device in which ~~uses~~^a thin film transistors each having a photo response property are used as [[a]] photodetecting elements and the thin film transistors are disposed in a matrix manner so as to read a document image in a single frame period, comprising

a driving circuit for applying a voltage to a gate electrode of each of the thin film transistors so as to drive the thin film transistors into an ON state or an OFF state, wherein the driving circuit applies a voltage, whose polarity is opposite to average polarity of a voltage making the thin film transistor in the OFF state, to the gate electrode in an arbitrary period in a period whose length is 3-30% with respect to the single frame.

11. (Currently amended) An image reading method, in which a document image is read by detecting a photoelectric transfer amount of a photoelectric transfer element which has (i) [[a]] thin film transistors each having a photo response property and (ii) a storage capacitor connected to each of the thin film transistors disposed in a matrix manner, the method comprising:

a first step of charging the storage capacitor with a predetermined amount of electric charge;

a second step of discharging the electric charge from the storage capacitor, by emitting light to the thin film transistor while the thin film transistor is being in an OFF state, after charging the storage capacitor with the electric ~~charges~~ charge; and

a third step of detecting the photoelectric transfer amount of the photoelectric transfer element by obtaining an amount of remaining electric charge in the storage capacitor after discharging the electric charge; and wherein:

when a period for carrying out a fourth step, when the three steps [[are]] is regarded as one cycle of image reading [[,]] and when a period whose length is equal to a total of said one cycle and of applying a voltage, whose polarity is opposite to average polarity of a voltage making the thin film transistor in the OFF state, to a gate electrode of the thin film transistor within a period in which the third step shifts to the first step of a next cycle is regarded as a single frame period, there is carried out a fourth step of applying a voltage whose polarity is opposite to average polarity of a voltage making the thin film transistor in the OFF state, to a gate electrode of the thin film transistor within a period whose length is 3-30% with respect to the single frame.

12. (Canceled)

13. (Original) The method as set forth in claim 11, wherein the fourth step is carried out once in a plurality of cycles.

14. (Canceled)

15. (Original) The method as set forth in claim 11, wherein the cycle ranges from 0.1Hz to 10Hz.

16. (Original) The method as set forth in claim 11, wherein a potential of the voltage applied to the gate electrode in the fourth step is set to be equal to a potential of the voltage making the thin film transistor in the ON state.

17. (Original) The method as set forth in claim 11, wherein application of the voltage to the gate electrode that should be performed in the fourth step is performed not in the fourth step but in a period in which the storage capacitor is charged with a predetermined amount of the electric charge in the first step of the next cycle.

18. (Original) The method as set forth in claim 11, wherein the thin film transistor functions as both a pixel selection element for selecting a pixel and the photodetecting element.